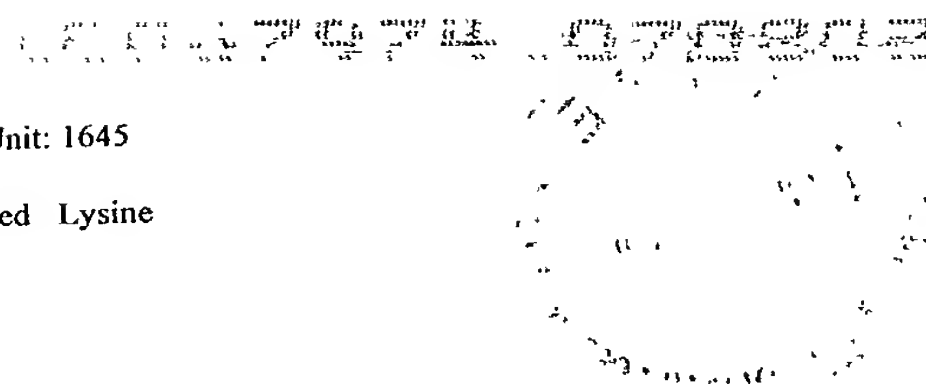


FIG. 1

ACGCATTAGA	60
-----+	
R I R	
GGTTGTCTGC	120
-----+	
V V C	
GAATCCCGTT	180
-----+	
N P V	
TAACGCTCTC	240
-----+	
N A L	
CTCTCAGGCT	300
-----+	
S Q A	
ACCGGGTCGT	360
-----+	
P G R	
GGGTGTTAAT	420
-----+	
G V N	
TGCAGTTGCG	480
-----+	
A V A	
CGGTGTGTAT	540
-----+	
G V Y	
CTTCGAAGAA	600
-----+	
F E E	
TGAATACGCT	660
-----+	
E Y A	
CGGCACTTTG	720
-----+	
G T L	
TGTCGCAACC	780
-----+	
V A T	
CGAGGCTGCC	840
-----+	
E A A	

SEQ ID NO: 1 AAGGTTTTCCGTGCGTTGGCTGATGCAGAAATCAACATTGACATGGTTCTGCAGAACGTC
 (CONT.) 841 -----+-----+-----+-----+-----+-----+-----+ 900
 SEQ ID NO: 2 K V F R A L A D A E I N I D M V L Q N V
 (CONT.) TCCTCTGTGGAAGACGGCACCACCGACATCACGTTACCTGCCCTCGCGCTGACGGACGC
 901 -----+-----+-----+-----+-----+-----+-----+ 960
 S S V E D G T T D I T F T C P R A D G R
 961 CGTGCGATGGAGATCTTGAAGAAGCTTCAGGTTCAAGGCAACTGGACCAATGTGCTTTAC
 -----+-----+-----+-----+-----+-----+-----+ 1020
 R A M E I L K K L Q V Q G N W T N V L Y
 1021 GACGACCAGGTCGGCAAAGTCTCCCTCGTGGGTGCTGGCATGAAGTCTCACCCAGGTGTT
 -----+-----+-----+-----+-----+-----+-----+ 1080
 D D Q V G K V S L V G A G M K S H P G V
 1081 ACCGCAGAGTTCATGGAAGCTCTGCGCGATGTCAACGTGAACATCGAATTGATTTCCATC
 -----+-----+-----+-----+-----+-----+-----+ 1140
 T A E F M E A L R D V N V N I E L I S I
 1141 TCTGAGATCCGCATTTCCGTGCTGATCCGTGAAGATGATCTGGATGCTGCTGCACGTGCA
 -----+-----+-----+-----+-----+-----+-----+ 1200
 S E I R I S V L I R E D D L D A A A R A
 1201 TTGCATGAGCAGTTCCAGCTGGGCGGCGAAGACGAAGCCGTCGTTTATGCAGGCACCGGA
 -----+-----+-----+-----+-----+-----+-----+ 1260
 L H E Q F Q L G G E D E A V V Y A G T G
 1261 CGCTAA
 ----- 1266
 R *

FIG.2B



Amino Acid sequence of ATCC 21529 asd

SEQ ID NO: 3	1	ATGAGCACCATCGCAGTTGTTGGTGCAACCGGCCAGGTCGGCCAGGTTATGCGCAGGTTT	
SEQ ID NO: 4	1	M T T I A V V G A T G Q V G Q V M R T F	60
	61	TTGGAAGAGCGCAATTTCCAGCTGAGACTGTTGGTTTCTTTGCTTCCCCCGTTCCGCA	120
		L E E R N F P A D T V R F F A S P R S A	
	121	GGCCGTAAGATTGAATTCCGTGGCACGGAAATCGAGGTAGAAGACATTACTCAGGCAACC	180
		G R K I E F R G T E I E V E D I T Q A T	
	181	GAGGACTCCCTCAAGGGCATCGACGTTGCGTTGTTCTCTGCTGGAGGCACCGCTTCCAAG	240
		E E S L K G I D V A L F S A G G T A S K	
	241	CAGTACGCTCCACTGTTTGCTGCTGCAGGCGCGACTGTTGTGGATAACTCTTCTGCTTGG	300
		Q Y A P L F A A A G A T V V D N S S A W	
	301	CGCAACGACGACGAGGTTCCACTAATCGTCTCTGAGGTGAACCCTTCCGACAAGGATTCC	360
		R K D D E V P L I V S E V N P S D K D S	
	361	CTGGTCAAGGGCATTATTGCGAATCCTAACTGCACCACCATGGCTGCAATGCCAGTGCTG	420
		L V K G I I A N P N C T T M A A M P V L	
	421	AAGCCACTGCACGATGCCGCTGGTCTTGTAAGCTTCACGTTTCCTCTTACCAGGCTGTT	480
		K P L H D A A G L V K L H V S S Y Q A V	
	481	TCCCGTTCTGGTCTTGCAGGTGTGGAAACCTTGGCAAAGCAGGTTGCTGCAGTTGGCGAC	540
		S G S G L A G V E T L A K Q V A A V G D	
	541	CACAACGTTGAGTTCGTCCATGATGGACAGGCTGCTGACGCACGCGATGTCGGACCTTAC	600
		H N V E F V H D G Q A A D A G D V G P Y	
	601	GTTTCCCAATCGCTTACAACGTGCTGGCATTGCGCGAAACCTCGTCGATGACGGCACC	660
		V S P I A Y N V L P F A G N L V D D G T	
	661	TTCGAAACCGACGAAGAGCAGAAGCTGCGCAACGAATCCCGCAAGATTGTCGGCCTCCCA	720
		F E T D E E Q K L R N E S R K I L G L P	
	721	GACCTCAAGGTCTCAGGCACCTGCGTCCGCGTGCCGGTTTTTCACCGGCCACACGCTGACC	780
		D L K V S G T C V R V P V F T G H T L T	
	781	ATTCACGCCGAATTCGACAAGGCAATCAGCGTCGAGCAGGCGCAGGAGATCTTGGGTGCC	840
		I H A E F D K A I T V E Q A Q E I L G A	
	841	GCTTCAGGCGTCGAGCTTGTCGACGTCCCAACCCCACTTGGACCTGCCGGCATTGACGAA	900
		A S G V E L V D V P T P L A A A G I D E	

FIG.3A

Appl. No. 10/067,974, Filed: February 8, 2002
 Dkt. No. 1533 2640001/MAC/M-G; Group Art Unit. 1645
 Inventors: Li *et al* ; Tel: 202/371-2600
 Title: Polynucleotide Constructs for Increased Lysine
 Production

```

SEQ ID NO: 3      TCCCTCGTTGGACGCATCCGTCAGGACTCCACTGTCGACGACAACCGCGGTCTGGTTCTC
  (CONT.) 901      -----+-----+-----+-----+-----+-----+
SEQ ID NO: 4      S L V G R I R Q D S T V D D N R G L V L
  (CONT.)          -----+-----+-----+-----+-----+
          961      GTCGTATCTGGCGATAACCTTCGCAAGGGCGCAGCACTGAACACCATTTCAGATTGCTGAG
          -----+-----+-----+-----+-----+
          1021     V V S G D N L R K G A A L N T I Q I A E
          -----+-----+-----+-----+
          1021     CTGCTGGTTAAGTAA
          -----+-----+-----+-----+
          1021     L L V K *
    
```

FIG.3B

Amino Acid sequence of dapB

SEQ ID NO: 5 ATGGGAATCAAGGTTGGCGTTCTCGGAGCCAAAGGCCGTGTTGGTCAAACCTATTGTGGCA
 1 -----+-----+-----+-----+-----+-----+-----+ 60
 SEQ ID NO: 6 M G I K V G V L G A K G R V G Q T I V A
 GCAGTCAATGAGTCCGACGATCTGGAGCTTGTTCAGAGATCGGCGTCGACGATGATTTG
 61 -----+-----+-----+-----+-----+-----+-----+ 120
 A V N E S D D L E L V A E I G V D D D L
 AGCCTTCTGGTAGACAACGGCGCTGAAGTTGTCGTTGACTTCACCACTCCTAACGCTGTG
 121 -----+-----+-----+-----+-----+-----+-----+ 180
 S L L V D N G A E V V V D F T T P N A V
 ATGGGCAACCTGGAGTTCTGCATCAACAACGGCATTCTGCGGTTGTTGGAACCACGGGC
 181 -----+-----+-----+-----+-----+-----+-----+ 240
 M G N L E F C I N N G I S A V V G T T G
 TTCGATaATGCTCGTTTGGAGCAGGTTGCGGcCTGGCTTGAAGGAAAAGACAATGTCGGT
 241 -----+-----+-----+-----+-----+-----+-----+ 300
 F D N A R L E Q V R A W L E G K D N V G
 GTTCTGATCGCACCTAACTTTGCTATCTCTGCGGTGTTGACCATGGTCTTTTCCAAGCAG
 301 -----+-----+-----+-----+-----+-----+-----+ 360
 V L I A P N F A I S A V L T M V F S K Q
 GCTGCCCGCTTCTTCGAATCAGCTGAAGTTATTGAGCTGCACCACCCCAACAAGCTGGAT
 361 -----+-----+-----+-----+-----+-----+-----+ 420
 A A R F F E S A E V I E L H H P N K L D
 GCACCTTCAGGCACCGCGATCCACACTGCTCAGGGCATTGCTGCGGCACGCAAAGAAGCA
 421 -----+-----+-----+-----+-----+-----+-----+ 480
 A P S G T A I H T A Q G I A A A R K E A
 GGCATGGACGCACAGCCAGATGCGACCGAGCAGGCACTTGAGGGTTCCTGTGGCGCAAGC
 481 -----+-----+-----+-----+-----+-----+-----+ 540
 G M D A Q P D A T E Q A L E G S R G A S
 GTAGATGGAATCCCAGTTCAcGCAGTCCGCATGTCCGGCATGGTTGCTCACGAGCAAGTT
 541 -----+-----+-----+-----+-----+-----+-----+ 600
 V D G I P V H A V R M S G M V A H E Q V
 ATCTTTGGCACCCAGGGTCAGACCTTGACCATCAAGCAGGACTCCTATGATCGCAACTCA
 601 -----+-----+-----+-----+-----+-----+-----+ 660
 I F G T Q G Q T L T I K Q D S Y D R N S
 TTTGCACCAGGTGTCTTGGTGGGTGTGCGCAACATTGCACAGCACCCAGGCCTAGTCGTA
 661 -----+-----+-----+-----+-----+-----+-----+ 720
 F A P G V L V G V R N I A Q H P G L V V
 GGACTTGAGCATTACCTAGGCCTGTAA
 721 -----+-----+-----+-----+-----+-----+-----+ 747
 G L E H Y L G L *

FIG.4

SEQ ID NO: 10 Amino Acid sequence of ddh

SEQ ID NO: 7 1 ATGGATTTCGGTAAGCTCGACCAGCACAGTGCCACCACAATTTTCCACCATTACAAGAAC 60
-----+-----+-----+-----+-----+-----+-----+
SEQ ID NO: 8 M H F G K L D Q D S A T T I L E D Y K N
61 ATGACCAACATCCGCCTAGCTATCGTAGGGTACGGAAACCTGCGACCCAGCGTCGAAAAG 120
-----+-----+-----+-----+-----+-----+-----+
M T N I R V A I V G Y G N L G R S V E K
121 CTTATTGCCAAGCAGCCCGACATGGACCTTGTAGGAATCTTCTCGCGCCGGGCCACCCTC 180
-----+-----+-----+-----+-----+-----+-----+
L I A K Q P D M D L V G I F S R R A T L
181 GACACAAAGACGCCAGTCTTTGATGTCGCCGACGTGGACAAGCACCCCGACGACGTGGAC 240
-----+-----+-----+-----+-----+-----+-----+
D T K T P V F D V A D V D K H A D D V D
241 GTGCTGTTCCTGTGCATGGGCTCCGCCACCGACATGCCTGAGCAGGCACCAAAGTTCGCG 300
-----+-----+-----+-----+-----+-----+-----+
V L F L C M G S A T D I P E Q A P K F A
301 CAGTTCGCCTGCACCGTAGACACCTACCACAACCACCGCGACATCCCACGCCACCGCCAG 360
-----+-----+-----+-----+-----+-----+-----+
Q F A C T V D T Y D N H R D I P R H R Q
361 GTCATGAACGAAGCCGCCACCGCAGCCGGCAACGTTGCACTGGTCTGTACCGGCTGGGAT 420
-----+-----+-----+-----+-----+-----+-----+
V M N E A A T A A G N V A L V S T G W D
421 CCAGGAATGTTCTCCATCAACCGCGTCTACGCAGCCGCACTCTTAGCCGAGCACCAGCAG 480
-----+-----+-----+-----+-----+-----+-----+
P G M F S I N R V Y A A A V L A E H Q Q
481 CACACCTTCTGGGGCCCAGCTTTGTCACAGGGCCACTCCGATCCTTTGCGACGCATCCCT 540
-----+-----+-----+-----+-----+-----+-----+
H T F W G P G L S Q G H S Q A L R R I P
541 GGCGTTCAAAAGGCcGTCCAGTACACCCTGCCATCCGAAGaAGCCCTGCAAAAGGCCCGC 600
-----+-----+-----+-----+-----+-----+-----+
G V Q K A V Q Y T L P S E E A L E K A R
601 CGTCGCGAAGCCGGCGACCTcACCGGAAAGCAAACCCAGaAGCGCCAATGCTTCGTGGTT 660
-----+-----+-----+-----+-----+-----+-----+
R G E A G D L T G K Q T H K R Q C F V V
661 CCCGATGCGGCCGACCACGAGCGCATCGAAAACGACATCCGCACCATCCCTGATTACTTC 720
-----+-----+-----+-----+-----+-----+-----+
A D A A D H E R I E N D I R T M P D Y F
721 GTTGGCTACGAAGTCGAAGTCACTTCATCGACGAAGCAAGCTTgGACgCCGAGCACACC 780
-----+-----+-----+-----+-----+-----+-----+
V G Y E V E V N F I D E A T L D A E H T
781 GGGATGCCACACGGcGGACACGTGATcACCACCGGCGACACCGGTGGCTTCAACCACACC 840
-----+-----+-----+-----+-----+-----+-----+
G M P H G G H V I T T G D T G G F N H T
841 GTGGAATACATCCTgAAGCTGGACCGAAACCCAGATTTACCGCTTctTCACAGATCCCT 900
-----+-----+-----+-----+-----+-----+-----+
V E Y I L K L D R N P D F T A S S Q I A
TTCGGcCGCCCAGCTCACCCCATGAAGCAGCAGGGCCAAAGCGGtGCTTTACCGTGCTC

FIG.5A

FIG. 5B

FIG. 5B

Number of hauls	<i>P. setiferus</i> (%)	<i>P. setiferus</i> + <i>P. setiferus</i> + <i>P. setiferus</i> (%)
1	~10	~5
2	~35	~10
3	~65	~15
4	~85	~20
5	~95	~22
6	~98	~23
7	~99	~24
8	~100	~24
9	~100	~24
10	~100	~25

Age Group	Total (%)	Male (%)	Female (%)	Unknown (%)
18-24	100	85	15	0
25-34	75	95	5	0
35-44	50	85	15	0
45-54	25	75	25	0
55-64	0	65	35	0
65+	0	55	45	0

FIG. 6

Full length Amino Acid sequence of Lys A (pRS6)

SEQ ID NO: 11 ATGGCTACAGTTGAAAATTTCAATGAACTTCCCGCACACGTATGGCCACGCAATGCCGTG
1 -----+-----+-----+-----+-----+-----+-----+ 60
SEQ ID NO: 12 M A T V E N F N E L P A H V W P R N A V
CGCCAAGAAGACGGCGTTGTCACCGTCGCTGGTGTGCCTCTGCCTGACCTCGCTGAAGAA
61 -----+-----+-----+-----+-----+-----+-----+ 120
R Q E D G V V T V A G V P L P D L A E E
TACGGAACCCCACTGTTCTAGTCGACGAGGACGATTTCCGTTCCCGCTGTCGCGACATG
121 -----+-----+-----+-----+-----+-----+-----+ 180
Y G T P L F V V D E D D F R S R C R D M
GCTACCGCATTCCGGTGGACCAGGCAATGTGCACTACGCATCTAAAGCGTTCCTGACCAAG
181 -----+-----+-----+-----+-----+-----+-----+ 240
A T A F G G P G N V H Y A S K A F L T K
ACCATTGCACGTTGGGTTGATGAAGAGGGGCTGGCACTGGACATTGCATCCATCAACGAA
241 -----+-----+-----+-----+-----+-----+-----+ 300
T I A R W V D E E G L A L D I A S I N E
CTGGGCATTGCCCTGGCCGCTGGTTTCCCCGCCAGCCGTATCACCGCGCACGGCAACAAC
301 -----+-----+-----+-----+-----+-----+-----+ 360
L G I A L A A G F P A S R I T A H G N N
AAAGGCGTAGAGTTCCTGCGCGCGTTGGTTCAAACGGTGTGGGACACGTGGTGTCTGGAC
361 -----+-----+-----+-----+-----+-----+-----+ 420
K G V E F L R A L V Q N G V G H V V L D
TCCGCACAGGAACTAGAACTGTTGGATTACGTTGCCGCTGGTGAAGGCAAGATTCAGGAC
421 -----+-----+-----+-----+-----+-----+-----+ 480
S A Q E L E L L D Y V A A G E G K I Q D
GTGTTGATCCGCGTAAAGCCAGGCATCGAAGCACACACCCACGAGTTCATCGCCACTAGC
481 -----+-----+-----+-----+-----+-----+-----+ 540
V L I R V K P G I E A H T H E F I A T S
CACGAAGACCAGAAGTTCGGATTCTCCCTGGCATCCGGTTCGCGATTCTGAAGCAGCAAAA
541 -----+-----+-----+-----+-----+-----+-----+ 600
H E D Q K F G F S L A S G S A F E A A K
GCCGCCAACAACGCAGAAAACCTGAACCTGGTGGCCTGCACTGCCACGTTGGTTCCAG
601 -----+-----+-----+-----+-----+-----+-----+ 660
A A N N A E N L N L V G L H C H V G S Q

FIG.7A

Appl. No. 10/067,974; Filed. February 8, 2002
Dkt No. 1533.2640001/MAC/M-G; Group Art Unit. 1645
Inventors Li *et al*; Tel: 202/371-2600
Title: Polynucleotide Constructs for Increased Lysine
Production

Lys A (pRS6)

```
SEQ ID NO: 11  GTGTTGACGCCGAAGGCTTCAAGCTGGCAGCAGAACGCGTGTGGGCCTGTACTCACAG
  (CONT.) 661  -----+-----+-----+-----+-----+-----+-----+
SEQ ID NO: 12  V F D A E G F K L A A E R V L G L Y S Q
  (CONT.)
721  ATCCACAGCGAACTGGGCGTTGCCCTTCTGAACTGGATCTCGGTGGCGGATACGGCATT
-----+-----+-----+-----+-----+-----+-----+
780  I H S E L G V A L P E L D L G G G Y G I
781  GCCTATACCGCAGCTGAAGAACCACTCAACGTCGCAGAAGTTGCCTCCGACCTGCTCACC
-----+-----+-----+-----+-----+-----+-----+
840  A Y T A A E E P L N V A E V A S D L L T
841  GCAGTCGGA AAAATGGCAGCGGAACTAGGCATCGACGCACCAACCGTGCTTGTTGAGCCC
-----+-----+-----+-----+-----+-----+-----+
900  A V G K M A A E L G I D A P T V L V E P
901  GGCCGCGCTATCGCAGGCCCTCCACCGTGACCATCTACGAAGTCGGCACCACCAAAGAC
-----+-----+-----+-----+-----+-----+-----+
960  G R A I A G P S T V T I Y E V G T T K D
961  GTCCACGTAGACGACGACAAAACCCGCCGTTACATCGCCGTGGACGGAGGCATGTCCGAC
-----+-----+-----+-----+-----+-----+-----+
1020  V H V D D D K T R R Y I A V D G G M S D
1021  AACATCCGCCCAGCACTCTACGGCTCCGAATACGACGCCCGCGTAGTATCCCGCTTCGCC
-----+-----+-----+-----+-----+-----+-----+
1080  N I R P A L Y G S E Y D A R V V S R F A
1081  GAAGGAGACCCAGTAAGCACCCGCATCGTGGGCTCCCACTGCGAATCCGGCGATATCCTG
-----+-----+-----+-----+-----+-----+-----+
1140  E G D P V S T R I V G S H C E S G D I L
1141  ATCAACGATGAAATCTACCCATCTGACATCACCAGCGGCGACTTCCTTGCACTCGCAGCC
-----+-----+-----+-----+-----+-----+-----+
1200  I N D E I Y P S D I T S G D F L A L A A
1201  ACCGGCGCATACTGCTACGCCATGAGCTCCCGCTACAACGCCTTCACACGGCCCGCCGTC
-----+-----+-----+-----+-----+-----+-----+
1260  T G A Y C Y A M S S R Y N A F T R P A V
1261  GTGTCCGTCCGCGCTGGCAGCTCCCGCCTCATGCTGCGCCGCGAAACGCTCGACGACATC
-----+-----+-----+-----+-----+-----+-----+
1320  V S V R A G S S R L M L R R E T L D D I
```

FIG.7B

Appl No. 10/067,974; Filed February 8, 2002
Dkt. No. 1533 2640001/MAC/M-G; Group Art Unit: 1645
Inventors: Li *et al.*; Tel: 202/371-2600
Title: Polynucleotide Constructs for Increased Lysin
Production

SEQ ID NO: 11 CTCTCACTAGAGGCATAA
(CONT.) 1321 -----+----- 1330
SEQ ID NO: 12 L S L E A *

FIG.7C

Year	15-64 (%)	65+ (%)	Total (%)
1950	65	35	100
1960	70	30	100
1970	75	25	100
1980	80	20	100
1990	85	15	65

SEQ ID NO: 13	GTGGCCGAACAAGTTAAATTGAGCGTGCAGTTGATAGCGTGCAGTTCTTTTACTCCACCC -----+-----+-----+-----+-----+-----+-----+	
1		60
SEQ ID NO: 14	M A E Q V K L S V E L I A C S S F T P P GCTGATGTTGAGTGGTCAACTGATGTTGAGGGCGCGGAAGCACTCGTCGAGTTTGGGGGT -----+-----+-----+-----+-----+-----+-----+	
61	A D V E W S T D V E G A E A L V E F A G	120
	CGTGCCCTGCTACGAAACTTTTGATAAGCCGAACCCTCGAACTGCTTCCAATGCTGCGTAT -----+-----+-----+-----+-----+-----+-----+	
121	R A C Y E T F D K P N P R T A S N A A Y	180
	CTGCGCCACATCATGGAAGTGGGGCACACTGCTTTGCTTGAGCATGCCAATGCCACGATG -----+-----+-----+-----+-----+-----+-----+	
181	L R H I M E V G H T A L L E H A N A T M	240
	TATATCCGAGGCATTTCTCGGTCCGCGACCCATGAATTGGTCCGACACCGCCATTTTTCC -----+-----+-----+-----+-----+-----+-----+	
241	Y I R G I S R S A T H E L V R H R H F S	300
	TTCTCTCAACTGTCTCAGCGTTTCGTGCACAGCGGAGAATCGGAAGTAGTGGTGCCCCT -----+-----+-----+-----+-----+-----+-----+	
301	F S Q L S Q R F V H S G E S E V V V P T	360
	CTCAT ----- L (I)	
361		

FIG. 8

Appl No 10/067,974; Filed: February 8, 2002
 Dkt No 1533 2640001/MAC/M-G; Group Art Unit: 1645
 Inventors: Li *et al*; Tel: 202/371-2600
 Title: Polynucleotide Constructs for Increased Lysine
 Production



Sequence encoded in the HpaI-PvuII fragment containing the P1

SEQ ID NO: 15 AACCGGTGTGGAGCCGACCATTCCGCGAGGCTGCAACGAGGTCGTAGTTTTGGTACAT
 GGCTTCTGGCCAGTTCATGGATTGGCTGCCGAAGAAGCTATAGGCATCGCCACCAGGGCCACC
 GGAGTTACCGAAGATGGTGCCGTGCTTTTCGCCTTGGGCAGGGACCTTGACAAAGCCCACGCT
 GATATCGCCAAGTGAGGGATCAGAATAGTGCATGGGCACGTCGATGCTGCCACATTGAGCGGA
 GGCAATATCTACCTGAGGTGGGCATTCTTCCCAGCGGATGTTTTCTTGCGCTGCTGCAGTGGG
 CATTGATACCAAAAAGGGGCTAAGCGCAGTCGAGGCGGCAAGAACTGCTACTACCTTTTTTAT
 TGTCGAACGGGGCATTACGGCTCCAAGGACGTTTGTTCCTGGGTCAGTTACCCCAAAAAGCA
 TATACAGAGACCAATGATTTTTTCATTA AAAAGGCAGGGATTTGTTATAAGTATGGGTCGTATT
 CTGTGCGACGGGTGTACCTCGGCTAGAATTTCTCCCATGACACCAG

FIG.9

V
C
C

FIG. 10

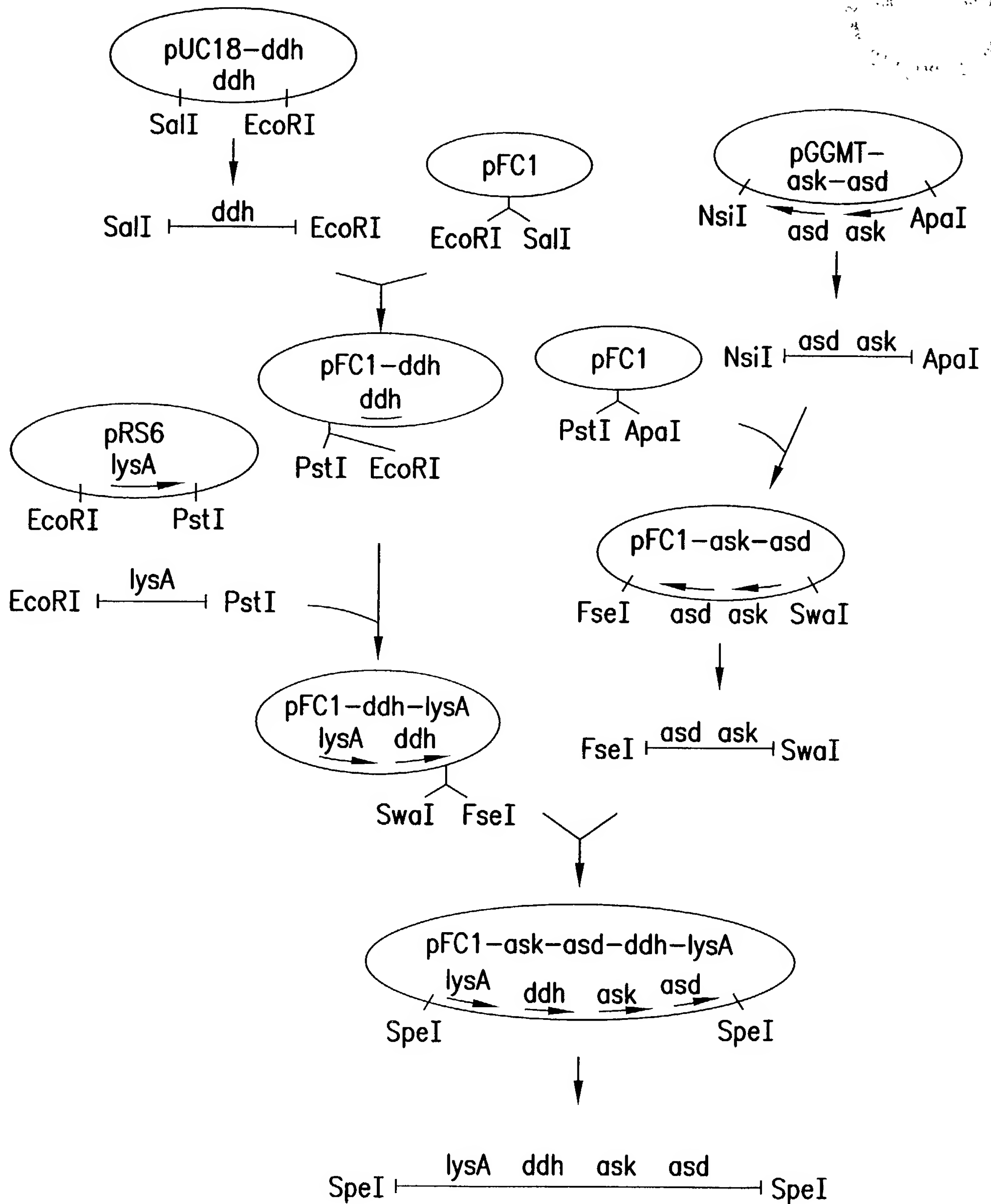


FIG. 11A

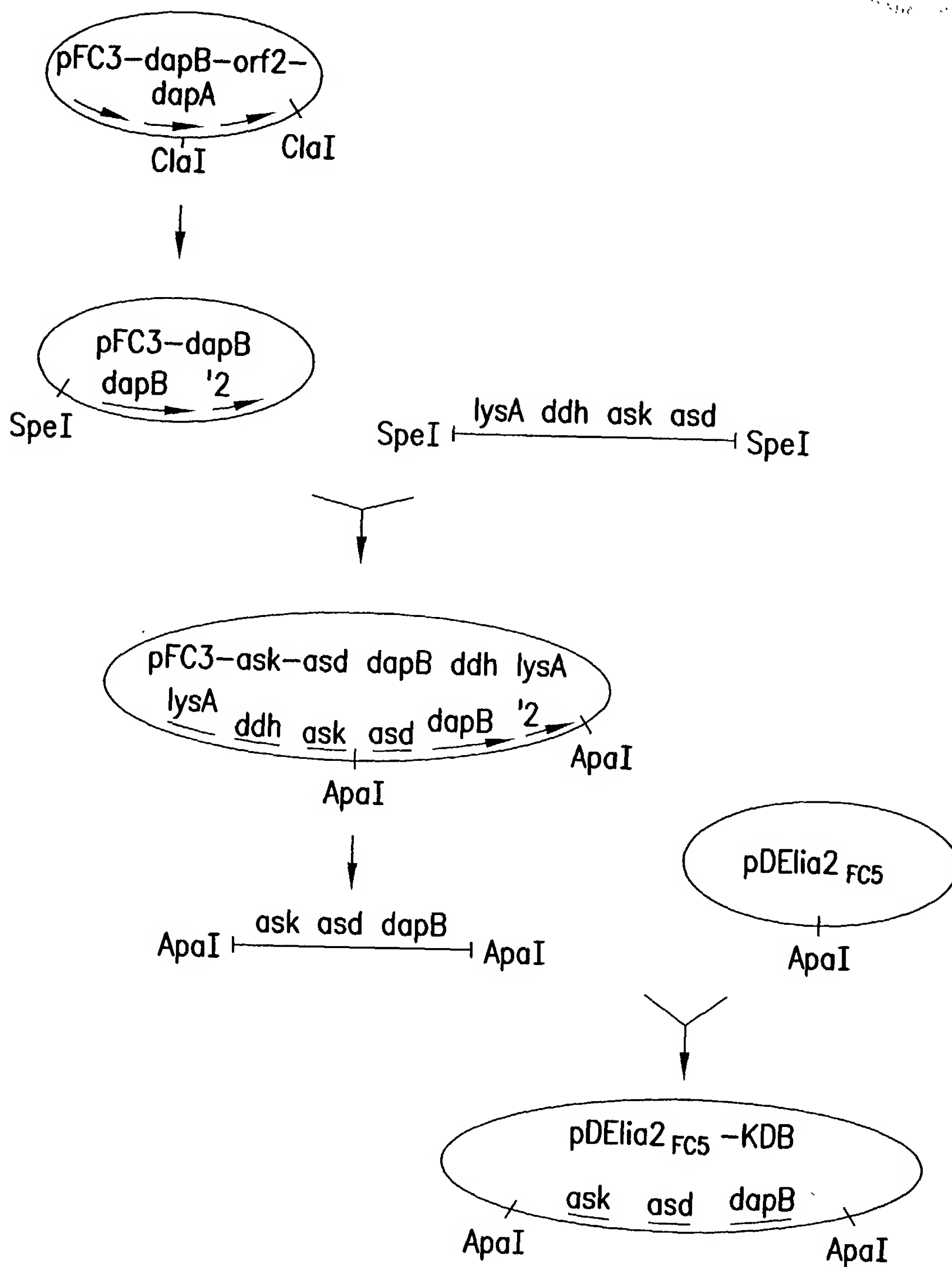


FIG. 11B

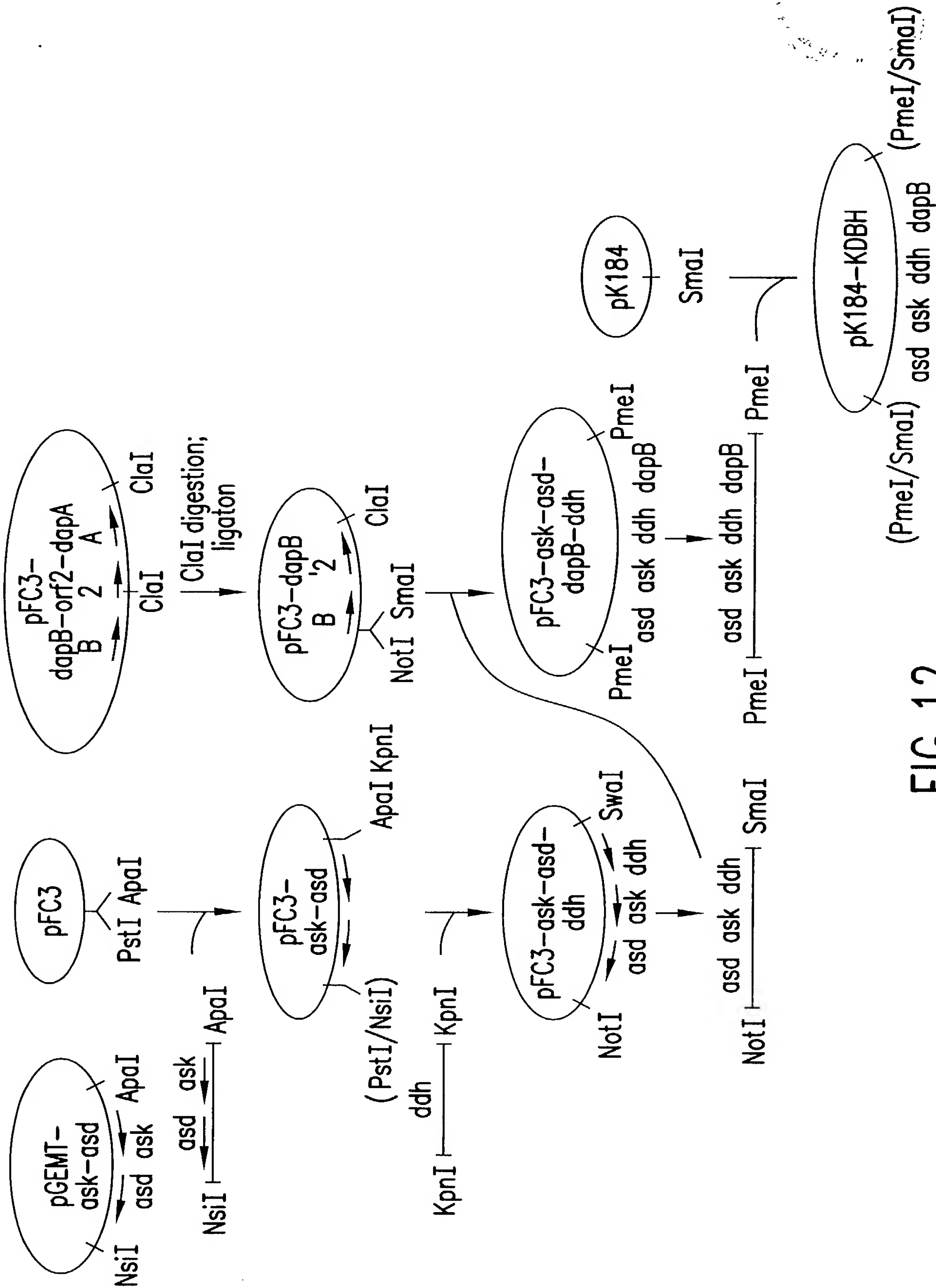


FIG. 12

Appl. No. 10/067,974; Filed: February 8, 2002
 Dkt. No. 1533.2640001/MAC/M-G, Group Art Unit: 1645
 Inventors: Li *et al*; Tel: 202/371-2600
 Title: Polynucleotide Constructs for Increased Lysine
 Production

pDElia2_{FC5} -ask-asd-dapB-orf2

(pDElia2_{FC5} -KDB2)

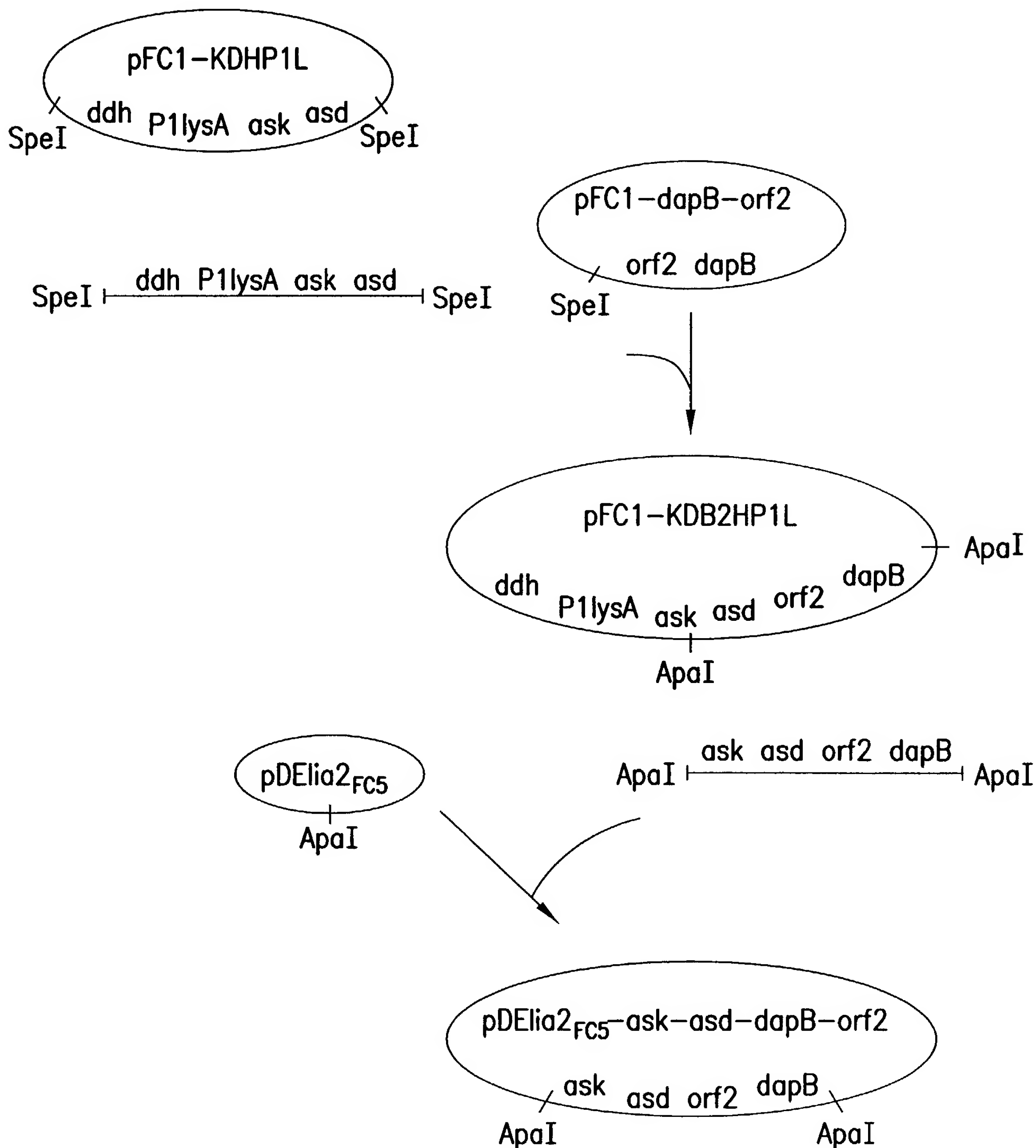


FIG. 13

pDElia2_{FC5}-ask-asd-dapB-orf2-ddh-P1lysA

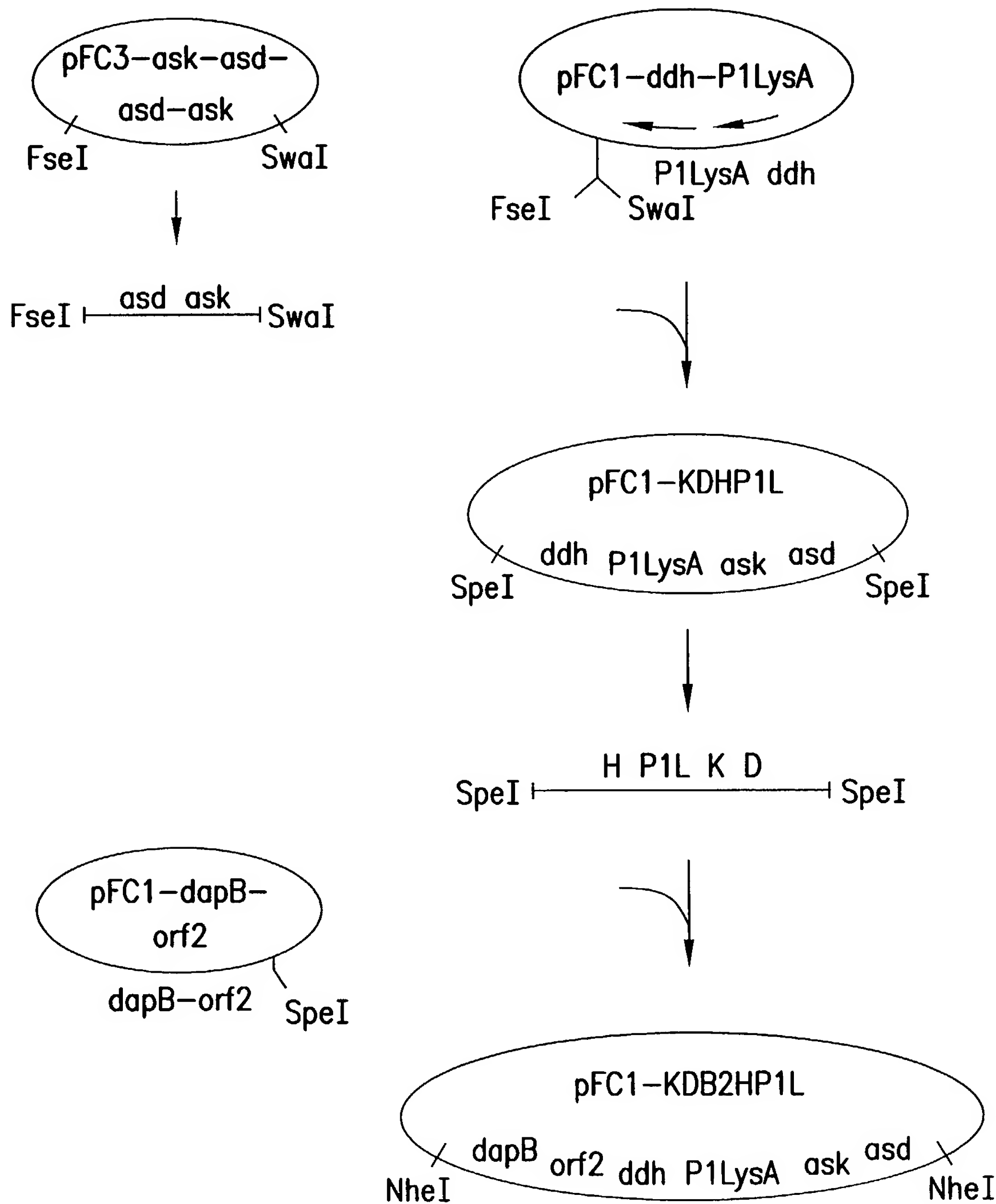


FIG. 14A

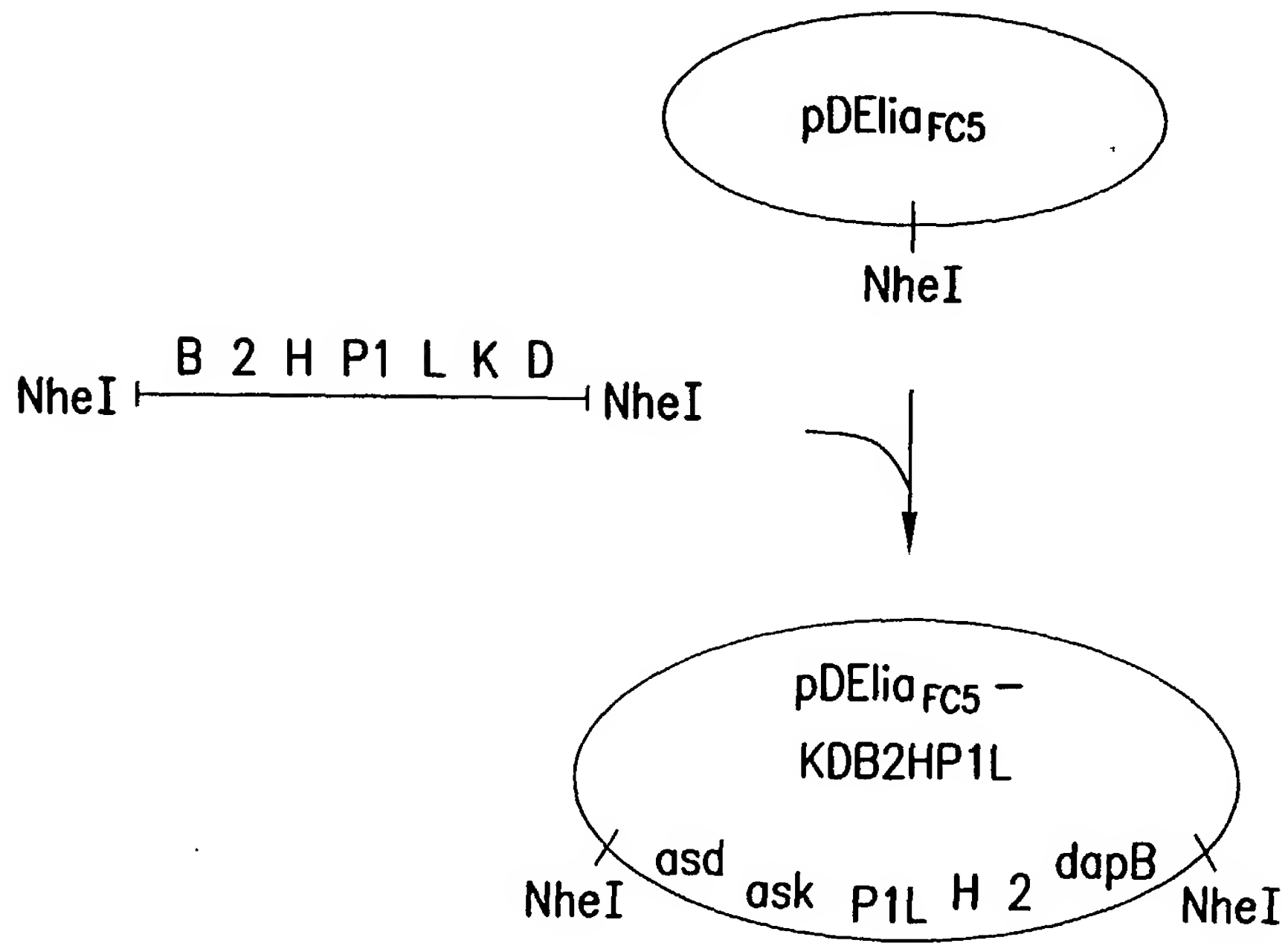


FIG. 14B